

Appl. No. 10/071,850  
Amtd. dated May 18, 2004  
Office Action dated 04/26/2004

### REMARKS

Applicant wishes to thank the Examiner for the courtesies extended to the undersigned during the telephone interview of May 18, 2004. It was agreed that Applicant would submit this After Final response as a result of the interview including arguments which were favorably received by the Examiner. It is believed that the application is in condition for issuance in view of the interview discussions and this filing. An Interview Summary also accompanies this filing.

Claims 1-43 stand rejected under 35 U.S.C. 102(e) for anticipation by U.S. Patent No. 5,982,144 to Johnson et al.

Applicant respectfully traverses the rejections and urges allowance of the present application.

Referring to claim 1, the apparatus now recites the *electrochemical devices individually configured to achieve an open-circuit condition* in a substantially charged state and the shunting devices individually configured to shunt after the respective electrochemical device achieves the open-circuit condition. Claim 1 now more clearly recites limitations previously inherent in the original claim as discussed with the Examiner during the interview and as such the clarification is not considered to be a limiting amendment. Referring to the teachings of Johnson including col. 3, lines 40-45 clearly indicate that the batteries of Johnson are not open-circuits once charged but would continue to conduct current without the shunt regulator 20 of Johnson. Accordingly, Johnson fails to disclose or suggest limitations of claim 1 including the electrochemical

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devices individually configured to achieve an open-circuit condition in a substantially charged state and it is believed from the interview that such claim is in condition for allowance. Applicants respectfully request allowance of claim 1 in the next Action.

The claims which depend from independent claim 1 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Claim 7 is believed to be allowable since Johnson fails to disclose or suggest a passive shunting device having a *breakdown voltage threshold greater than an end-of-charge voltage of an electrochemical device*. To the contrary and as discussed during the interview, col. 3, lines 30-34 of Johnson clearly teach the reference voltage of the shunt regulator having a reference voltage less than the fully charged voltage of the battery. As discussed during the interview, limitations of claim 7 including the threshold greater than the end-of-charge voltage are not shown nor suggested by the prior art of record and Applicant respectfully requests allowance of claim 7 in the next Action.

The claims which depend from independent claim 7 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 14, the Examiner and the undersigned discussed the recited circuitry adapted to *supply electrical energy having a voltage greater than an end-of-charge voltage of an electrochemical device to the electrochemical device after charging the electrochemical device to the end-of charge voltage* in combination with the recited circuitry

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configured to shunt after charging the electrochemical device to the end-of-charge voltage. The reference voltage of the shunt regulators of Johnson as set forth in col. 3 precludes operation of the circuit of Johnson as recited in claim 14. As discussed during the interview, limitations of claim 14 are not shown nor suggested by the prior art of record and Applicant respectfully requests allowance of claim 14 in the next Action.

The claims which depend from independent claim 14 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 20, the teachings in col. 3, lines 40-45 of Johnson make clear that the prior art fails to disclose or suggest first circuitry adapted to supply electrical energy to an electrochemical device configured to operate as an *open-circuit upon reaching a substantially charged state*, or the second circuitry configured to *shunt responsive to the electrochemical device operating as an open-circuit*. To the contrary, Johnson discloses shunting responsive to a threshold of the shunt regulator 20. As discussed during the interview, limitations of claim 20 are not shown nor suggested by the prior art of record and Applicant respectfully requests allowance of claim 20 in the next Action.

The claims which depend from independent claim 20 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Pursuant to the interview, Applicant submits that Johnson fails to disclose or suggest *applying electrical energy having a voltage greater than the end-of-charge voltage*

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to the electrochemical device after the charging the electrochemical device to the end-of-charge voltage as recited in claim 25. It is believed that claim 25 is allowable in view of at least this distinction and the discussions during the interview.

The claims which depend from independent claim 25 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

With respect to claim 30 and as discussed during the interview, Applicant has clarified the *electrochemical device achieving an open-circuit condition responsive to the device obtaining a substantially charged state and shunting after the device achieves the open-circuit condition*. As discussed during the interview, the clarification now more clearly recites limitations inherent in the originally filed claim 30 and accordingly the clarification is not to be considered a limiting amendment. It is believed that claim 30 is allowable in view of at least these distinctions and the discussions during the interview.

The claims which depend from independent claim 30 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 37, Johnson discloses lithium ion batteries but fails to disclose or suggest any electrochemical device configurations comprising a *lithium cell having a lithium-mixed metal electrode*. Claim 37 is believed to be allowable in view of the deficiency of the Johnson teachings and the discussions with the Examiner.

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The claims which depend from independent claim 37 are in condition for allowance for the reasons discussed above with respect to the independent claim as well as for their own respective features which are neither shown nor suggested by the cited art.

Referring to claim 43, Johnson fails to disclose or suggest lithium cells individually having a lithium-mixed metal electrode, charging a lithium cell to an end-of-charge voltage, applying electrical energy having a voltage greater than the end-of-charge voltage to the cell after charging the cell to the end-of-charge voltage, or the shunting after the charging and applying. As discussed during the interview, claim 43 recites limitations not disclosed or suggested by Johnson and claim 43 is allowable for at least this reason.

At least in view of the above and the discussions during the telephone interview, allowance of the application is respectfully requested.

Applicant respectfully requests allowance of all pending claims.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: 5/26/04

By: 

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